



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/528,635	10/24/2005	Markus Fellingner	083040-000000US	7028
20350 7590 05/14/2007 TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			EXAMINER BOYKIN, TERRESSA M	
			ART UNIT 1711	PAPER NUMBER
			MAIL DATE 05/14/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/528,635

Applicant(s)

FELLINGER ET AL.

Examiner

Terressa M. Boykin

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 22 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>3-22-5</u> . | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1711

**Priority**

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

**Claim Rejections - 35 USC § 112**

Claims 1 - 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited "increasing the intrinsic viscosity .... is indefinite because it is not supported by further recitations in the claim(s) of sufficient structure to accomplish the function in that it is unclear how much or how significant the increase is in view of applicants disclosure in the specification on page 1.  
Note:

In case of melt polymerization, a polyester melt is processed at temperatures of approx. 270°C to 300°C for about 30 minutes to 5 hours under a strong vacuum of approx. 1 mbar. This involves the drawback that, due to the high processing temperatures, the initially described oxidative degradation process of the polyester will take place which leads to yellow colouring and counteracts the polycondensation of the polyester. The intrinsic viscosity values achievable by melt polymerization are approximately in the range of 0.6 IV (=Intrinsic Viscosity).

Thus, the specification has made note of the specific range of intrinsic viscosity values achievable by melt polymerization. However neither the specification nor the claims have disclosed how those values differ when the process of the claimed invention is employed. There is no comparative examples demonstrating what amount of increase is actually being alleged.

Note further that a process should at least recite a positive, active step and any process parameters necessitated by the specification so that the claim will "clearly set out and circumscribe a particular area with a reasonable degree of precision and particularity, In re Moore, 169 USPQ 236, and make it clear what subject matter the claim encompasses, as well as make clear the subject matter from others would be precluded. In re Hammack 166 USPQ 204.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Art Unit: 1711

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-18 are rejected under 35 U.S.C. 102( b) as being anticipated by USP 4370302 see abstract, cols. 1-4; or USPub 2002/026030 see pages 1- 4.**

**USP 4370302** discloses a machine for solid phase polymerization comprises: a system for supplying particles of a synthetic polymer; a reaction system for effecting solid phase polymerization of the particles, fed from the supplying system, under a vacuum and heated condition; and a system for discharging the solid phase polymerized particles. The supplying system includes a pre-treatment apparatus comprising: a pre-crystallizer of a vertical agitator type; and a beater of a horizontal type. The reaction system includes a horizontal reaction vessel having a horizontal rotary shaft with a helically formed screw vane. The screw vane has a multiplicity of small through-apertures, and scrapers extend axially extending between adjacent screw vane portions. Intermediate pots having specially designed vacuum breakers are disposed at locations between the reaction system and the supplying system and between the reaction system and the discharging system.

In FIG. 1, the machine for solid phase polymerization of the reference, chips which, discloses an I.V., i.e., intrinsic viscosity, of 0.6 are supplied continuously or intermittently from a storage tank (not shown) to the pre-crystallizer 101 of the supplying system 100. The chips are heated to a temperature, for example, have between 130.degree. and 180.degree. C. for polyethylene terephthalate, by means of hot air blown through the opening 105 formed at the lower end of the rotatable vertical spindle 103 while they are agitated by means of the agitating bars 102 fixed on the rotatable vertical spindle 103, and accordingly, they are uniformly heated and dried and the preliminary crystallization of the chips are effected. In this case, it is preferable that the distance of the crystallization from the surface of chips, i.e., crystallized depth of chips be at least 40 .mu.m. If a crystallized depth of at least 40 .mu.m is obtained in the chips at a

Art Unit: 1711

temperature mentioned above, the sticking of the chips in the subsequent polymerization process wherein they are subjected to a reaction temperature of, for example, between 150.degree. and 230.degree. C. can be avoided. After the chips are subjected to the above-explained preliminary crystallization procedure, a large quantity of stuck chips may be created, however such stuck chips created through the preliminary crystallization procedure are different from those created through the solid phase polymerization and can be separated from each other when a low shearing force is applied.

**USPub 20020026030** discloses an improvement upon the process for producing poly(trimethylene terephthalate) (PTT) wherein 1,3-propanediol (PDO), and optionally other diols, and an aromatic diacid or diester thereof, and optionally other diacids or diesters, are esterified or transesterified and the esterification or transesterification product is polycondensed to produce a prepolymer which is solid state polymerized to produce a polymer with a desired intrinsic viscosity (IV). The prior art process includes the SSP prereaction steps of crystallization, drying/annealing, and preheating. The improvement in the present invention comprises crystallizing and preheating the PTT polymer in one step, without a drying/annealing step in between. Thus, the prepolymer still has a substantial moisture content when it is first exposed to the SSP reaction temperature inside the crystallizer/preheater. Thus, the process produces poly(trimethylene terephthalate) wherein 1,3-propanediol, and optionally other diols, and an aromatic diacid or diester thereof, and optionally other diacids or diesters, are esterified or transesterified and the esterification or transesterification product is polycondensed to produce a prepolymer which is solid state polymerized to produce a polymer with a desired intrinsic viscosity, the improvement which comprises crystallizing and preheating the prepolymer in one step, without the usual drying/annealing of the polymer, to the solid state polymerization reaction temperature, wherein the prepolymer has a substantial moisture content when it is first exposed to the reaction temperature, and introducing the prepolymer into a solid state polymerization reactor.

Each of the references discloses a process and a device which increases the intrinsic viscosity of the composition prepared from the same components as claimed by applicants. *Since the disclosed parameters, i.e. pressure in mbar etc., are expressed differently, they nevertheless appear to overlap those claimed and thus are not distinguishable over the prior art.* In view of the above, there appears to be no significant difference between the reference(s) and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

Art Unit: 1711

**Correspondence**

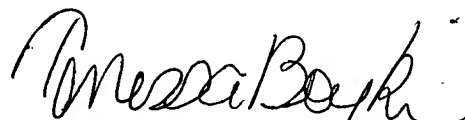
Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is ( 571-272-1700).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tmb



**Examiner Terressa Boykin  
Primary Examiner  
Art Unit 1711**